

What is claimed is:

1. An exhaust gas purifying catalyst comprising:
metal oxide particles comprising ceria and
zirconia; and
5 a noble metal carried by said metal oxide
particles,
wherein said metal oxide particles have
cores comprising larger molar amounts of zirconia than of
ceria, and surface layers comprising larger molar amounts
10 of ceria than of zirconia.
2. The catalyst according to claim 1 wherein the
metal oxide particles have a mean particle diameter of
500 nm or less.
3. The catalyst according to claim 1 for purifying
15 exhaust gas from an internal combustion engine.
4. The catalyst according to claim 1 used at the
temperature of 1,000°C or more.
5. The catalyst according to claim 1 wherein the
molar ratio of Zr:Ce in the metal oxide particles is
20 1:0.5 to 0.5:1.
6. The catalyst according to claim 1 further
comprising one or more metal oxides other than ceria and
zirconia.
7. The catalyst according to claim 1 wherein the
25 molar ratio of (Zr and Ce):(the other metals) is 5:1 to
20:1.
8. The catalyst according to claim 1 wherein the
ceria covers more than 80 mol% of the surface of the
metal oxide particles, as measured by the transmission
30 electron microscope and energy dispersive X-ray analyzer.
9. The catalyst according to claim 1 wherein the
zirconia composes more than 80 mol% of the cores of metal
oxide particles, as measured by the transmission electron
microscope and energy dispersive X-ray analyzer.
- 35 10. Metal oxide particles having cores comprising
larger molar amounts of zirconia than of ceria, and
surface layers comprising larger molar amounts of ceria

than of zirconia.

11. The metal oxide particles according to claim 10 carrying a noble metal.

5 12. A method for preparing metal oxide particles with said metal oxide particles having cores comprising larger molar amounts of zirconia than of ceria and surface layers comprising larger molar amounts of ceria than of zirconia, wherein the method comprises:

10 preparing a solution comprising zirconia sol and ceria sol;

adjusting the pH of the solution within ± 0.5 on the basis of the isoelectric point of zirconia; and

15 aggregating zirconia and then aggregating ceria around the aggregated zirconia from said solution to make aggregates.

13. The method according to claim 12 further comprising drying and firing the aggregates.

20 14. The method according to claim 12 wherein the metal oxide particles have a mean particle diameter of 500 nm or less.

15. The method according to claim 12 wherein the molar ratio of Zr:Ce in the metal oxide particle is 1:0.5 to 0.5:1.